

THE  
NORTHERN ILLINOIS  
STATE NORMAL  
SCHOOL QUARTERLY

---

DeKalb, Illinois



SEAT WORK FOR PRIMARY GRADES

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VOL. XI      NOVEMBER, 1913      No. 2

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Published by the NORTHERN ILLINOIS STATE NORMAL  
SCHOOL in February, May, August and November

Entered August 15, 1904, DeKalb, Illinois, as Second Class Matter  
under Act of Congress of July 16, 1894



# **The Northern Illinois State Normal School Quarterly**

**DeKalb, Illinois**

**SEAT WORK FOR PRIMARY GRADES**

**LIDA BROWN McMURRY**

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## SEAT WORK FOR PRIMARY GRADES

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Supervisor Primary Grades

*Purpose: To keep pupils profitably and happily employed during the period between two recitations.*

*What the Seat Work Should do for the Child.*

- a. It should train the eye to see accurately.
- b. It should train the hand to do its work well.
- c. It should lead the child to be inventive.
- d. It should make the child independent, by teaching him how to amuse himself.
- e. It should furnish recreation from the work of the preceding recitation, hence it should not be of the same kind.
- f. Often it should supplement work which is being carried on in their recitation periods.

*Cautions.*

- a. The work should not be too simple.
- b. It should not be so difficult that the child can not do it without the aid of the teacher.
- c. A recitation should not be disturbed by a class engaged in seat work.
- d. Much of the seat work should be first introduced in the Construction period. There the pupils learn how to make the objects. As seat work they get practice in making them.
- e. The seat work should be examined by the teacher, she placing a premium upon satisfactory work.

*Kinds of Seat Work.*

1. *Building with blocks and strips of wood of various sizes and shapes.* (Each child should be provided with many blocks so that he may not be restricted in building.)

a. *Material needed:—*

*Cubes—*one inch, and two inch.

*Square prisms* 1x1x2, 1x1x3, 1x1x4, 1x1x6, 1x2x2, 1x2x3.

*Triangular prisms* from one and from two-inch cubes.

*Cylinders* 1x6, 2x6.

*Thin strips, 2x6, 2x8, 2x12, 2x16, 2x24.*

3x6, 3x8, 3x12, 3x16, 3x24.

4x6, 4x8, 4x12, 4x16, 4x24.

6x6, 6x8, 6x12, 6x16, 6x24.

*Thin triangular prisms 1x3, 1x6, 1x12.*

b. *Objects to Construct.*

Buildings, bridges, walks, forts, railroads, walls, doll furniture, anything they please.

2. *Building with Kindergarten sticks.*

a. Material needed: uncolored Kindergarten sticks, sizes from one to five inches.

b. Objects to construct.

(1) Various figures which are drawn upon the board, e. g. furniture.

(2) Objects suggested by some recitation.

(3) The children's toys.

(4) Objects suggested by special days.

(5) Gardens, with beds of various sizes and shapes.

(6) School room with chairs, tables, etc.

(7) Playhouse.

(8) Garden tools.

(9) Fruits (using the one-inch sticks).

(10) Their homes.

(11) Log houses.

(12) Rail fences.

(13) Pig pens.

(14) Designs for borders. (The repetition gives rhythm.)

(15) Anything the pupils please to make.

3. *Modeling in Clay.*

a. Get clay in five-pound bricks. Put the dry clay in a heavy sack and soak in a big stone jar. As soon as it can be kneaded pour off the water and knead until the clay is elastic. Or, better, still, procure clay from a pottery.

b. Objects to construct:—

(1) Marbles.

(2) Beads—put hole through them while the clay is soft.

(3) Fruits For confectionery store.

(4) Candies

(5) Vegetables—for grocery store.

- (6) Dishes—for doll parties or for crockery store.
- (7) People     } In connection with stories or
- (8) Animals    } special days.
- (9) Toys.
- (10) Dolls.
- (11) Houses. (Make of solid clay.)
- (12) Bakery goods—for a bakery shop.
- (13) Food for a meal.
- (14) Anything the pupils please to make.
- 4. *Modeling in Sand.*
  - a. Material:—A plentiful supply of sand in a sand table.
  - b. Objects to construct:—
    - (1) Homes of children in other lands (combined with clay), e. g. Eskimo igloos with clay Eskimos, dogs, etc.
    - (2) Farm yard, with clay animals.
    - (3) Gardens, with beds of various flowers, vegetables, or grains.
    - (4) Farms, with fields of various grains.
    - (5) Forts.
    - (6) A drawbridge.
    - (7) The working out of stories in Literature; e. g. Fairy Stories, Robinson Crusoe, Hiawatha, The King of the Golden River, Robin Hood.
    - (8) The working out of topics in Geography and History, e. g. coal mining, sugar production, the fort at Boonesborough.
    - (9) Maps of the school grounds, and of the town.
    - (10) Map of our state.
    - (11) Geographic forms such as hills, valleys, how valleys are formed, river courses, lakes, mountains, and mountain passes.
- 5. *Sketching.*
  - a. Material:—crayograph, pencils, crayon, or charcoal.
  - b. Objects to represent.
    - (1) Objects or scenes suggested by Literature, Nature Study, or Reading.
    - (2) Children playing games.
    - (3) Objects suggested by special days, e. g. Christmas trees, turkeys, flags, etc.
    - (4) Objects suggested by the season or the weather, e. g. umbrellas, rain coats, rain hats, and rubbers, on a rainy day.
    - (5) Flowers and buds.
    - (6) Birds.

- (7) Fruits.
- (8) Trees—twigs.
- (9) Autumn leaves.
- (10) Design of linoleum for play house.
- (11) Borders for blank books which pupils make.
- (12) Animals.
- (13) Vegetables.

#### 6. *Laying of Paper Tablets.*

a. Material:—squares, oblongs, triangles, and circles of various sizes. Each child should have a large quantity in a box of his own. These may be cut by children in the third grade, for children in the first grade. These tablets are cut from a light weight cardboard.

b. Objects to be represented:—

- (1) Buildings, walls, and bridges.
- (2) A farm with its different buildings.
- (3) A garden, with beds of various sizes and shapes.
- (4) Animals (crudely).
- (5) Borders for pasting.
- (6) Vehicles.
- (7) Train of cars.
- (8) Boats.
- (9) Walks.
- (10) Furniture.
- (11) Kites, sleds, etc.
- (12) Anything they please to make.

#### 7. *Stringing.*

(1) Wooden spheres and cubes of various colors, strung on shoe-strings.

(2) Straws and paper circles. The straws are one inch long—oat straw is used. (The straws may be colored by Easter-egg dyes or Easy dyes.) The circles are one inch in diameter. They may be cut by the older children for the younger.

(3) Thorn apples or rose hips—for decorating the school room.  
 (4) Kernels of corn of various colors for Thanksgiving decoration.

- (5) Acorns—soak over night in hot water.
- (6) Acorn cups with autumn leaves.
- (7) Pop corn and cranberries for Christmas-tree decorations.



### 8. *Making with Seeds, Seed-vessels, Flowers, and Plants.*

(1) Of burdock burs make baskets, boxes, doll-houses and doll furniture. (Burn when through exhibiting.)

(2) Of wild cucumber pods make pigs, by using tooth-picks for legs.

(3) Of pea-pods make boats and put clay children into them.

(4) Use Lima beans or corn to lay out doll houses, fields, gardens, doll furniture, etc.

(5) Of peas and tooth-picks make children in various attitudes, doll furniture, etc. (Soak dried peas over night and dry an hour before using.)

(6) Of milkweed pods make cradles and put clay dolls into them.

(7) Of poppies, make dolls, by turning down the petals and tying close to the stem with a grass blade.

(8) Of poppy seed pods make tea set, using big and little ones.

(9) Of pansies, make dolls, by fastening a paper doll dress to the stem of a pansy leaving the quaint little face at the top.

(10) Of horsetail-rush, make furniture.

(11) Of English walnut shells, make cradles, baskets, boats, etc.

(12) Of acorns, make soldiers, using tooth-picks for arms and legs. Dress in crepe paper uniforms, and soldier caps. Make dishes of the cups and saucers.

(13) Of horse chestnuts make horses, thus:—A smaller chestnut is fastened to a larger one by tooth-picks. These form the head and body. Make tooth-pick legs. Glue on a bit of shoe-lace for the tail.

(14) Of peanuts make dolls, brownies, a necklace, a fleet of boats.

To make peanut animals:—"For each child use a peanut with a stem on it, two wooden tooth-picks, two pins, a small piece of paper, and a pair of scissors. Use the stem for a tail, or insert a short bit of string through a hole. Pinholes are made at suitable places for the legs, and into each hole the end of a half tooth-pick is inserted. Paper ears may be stuck through holes in the shell, or pasted on. Two pin heads form the eyes. These may be mice, pigs or cats, according to the size and angles of their ears and tails."

(15) Of gourds make a drinking cup or cradle.

(16) Of twigs, make log houses, fences, or pig pens.

### 9. *Sewing.*

(1) Of flowers, leaves, fruits, vegetables, birds, toys, and buildings on perforated cards. Several of these cards may be perforated at

one time, on a sewing machine, using a large needle, and making a long stitch, or the pupils can prick after the teacher (or they themselves) has outlined.

(2) Cross-stitching of holders, mats, and sofa pillows on gingham, canvas, or coarse burlap.

#### 10. *Weaving.*

(1) Of paper mats, with strips of a harmonizing color. These mats are made into cornucopias, and a handle is pasted on. They may be filled with flowers or with candies. Or the mats made be folded in the center and pasted together at the ends, and a handle added.

(2) Of manila paper mats—colored or plain—woven with strips which the children have colored. These mats can be made by the children thus:—Take a nine inch square of paper, either plain, or colored with crayograph or water colors, or it may be cut from wrapping paper of some desirable color. Leave a border of one inch all around the edge. At the top and bottom mark off the lines which define the border, into inch or half-inch spaces. Connect the dots on the line at the top, with the corresponding dots at the bottom, by very light lines. Fold the mat in the center and slash along these lines. You now have the mat.

Take another square of the same size as the first, colored a suitable color. Do not make a border. Mark off into inch or half-inch strips as before indicated. Cut these strips off. These form the woof. Weave these strips into the mat. Paste down the loose ends on the back of the mat and over these ends paste one of the strips.

(3) Of rugs, marble bags, book bags, etc., on wooden looms which the older children have made. They may be woven of cotton roving into a warp of carpet warp. Or strips of outing flannel may be used for the filling, or rags of wool, silk, or cotton cut plain or on the bias may be used.

#### 11. *Winding.*

(1) Of fluffy balls—thus: Take two circles of heavy cardboard or strawboard, three inches in diameter. Make a hole in the center of each one inch in diameter. Place the two circles together, and wind yarn about the circumference of the circle and through the hole until the hole is full. Cut the yarn at the circumference, between the two circles, tie firmly in the center, then pull through the holes. Fluff out the ball.

(2) Of Easter chickens, thus:—"Take a lead pencil. Measure off a piece of yarn about four inches longer than the lead pencil. Lay it along the lead pencil so it will extend two inches beyond each end. Now wind yarn over the pencil and piece of yarn, the whole length of the pencil. Take hold of each of the hanging ends, slip the wound yarn off the pencil and gather together by pulling the two ends and tying securely. Cut through the outer side of all the loops. This is the body of the chicken. Make a smaller ball, in the same way, for the head, and tie together the strings of the two balls. Use black pins for eyes, and a triangle of yellow paper for the bill (bend it in the middle, and paste on). A straight piece of wire is run through the body from side to side, and bent downward at the two ends, for legs. Two pin holes are made in a card, the wire of each leg is pushed through one of these holes and fastened, or one wire is pushed down through one of the holes and up through the other, and is fastened by twisting about the leg. The other leg is fastened in the same way."

(3) *Of yarn or cord dolls*, thus:—"Take a half skein of white yarn, or some cord. Wind on a card to make it even. Take it from the card. Tie through the center for the top of the head. Separate some strands and braid for the hair. The neck is indicated by winding the yarn with worsted of some pretty color, about one-quarter of the distance from the top. Two arms are separated, braided, and tied. The waist is tied about with a sash. The yarn is trimmed off for the skirt, showing the legs. The eyes are made of black beads, red yarn marks the mouth. The nose may be outlined with gray thread."

#### 12. *Plaiting or Braiding.*

(1) Of rags for rugs. Sew into shape desired.

(2) Of raffia, for satchels, marble bags, dolls' hats, mats, or baskets.

#### 13. *Looping.*

(1) Of macrame cord for reins, or for curtain cords.

#### 14. *Using Pebbles.*

(1) For outlining doll houses.

(2) For making rustic seats, laying them in clay.

(3) For making doll houses by laying in clay.

#### 15. *Paper Cutting or Tearing.*

(1) Paper dolls, and rows of dolls, boys or girls.

(2) Dresses for paper dolls,—

(a) From manila paper, or paper colored solid with crayograph or water colors, or plain paper trimmed with crayograph or water colors.

- (b) From colored wrapping paper.
- (c) From tissue paper.
- (d) Tissue paper trimmed with lace from soap or candy boxes.
- (3) Cut towels, doilies, and rugs. Mark off a border, then slash to make fringe. A fancy border may be made with crayograph or water colors.

(4) Cut mittens and gloves using the hand as a pattern. Make fancy wrists with crayograph.

(5) Cut out farm animals, barns, sheds, etc. Make a farmyard and place these in order.

(6) Cut animals—a whole circus and arrange a parade.

(7) Cut pictures of furniture from old catalogs, or make free-hand cuttings. Furnish different rooms in a house, laying the cuttings flat.

(8) Cut pictures of vegetables from old seed catalogs, or free-hand. Furnish a grocery store, laying the cuttings flat.

(9) Cut pictures from papers for scrap books. Cut with square corners.

(10) Cut out a mother rabbit with her little rabbits, and mount.

(11) Cut out a mother hen with her little chickens, and mount.

(12) Cut out fishes and paste on a background of blue paper, or paste on a dark globe of paper, covering the globe with white tissue paper.

(13) Cut pictures suggestive of a rainy day—rubbers, umbrellas, child in raincoat, etc.

(14) Cut to represent toys.

(15) Cut out a semi-circular sky of blue and paste upon it a yellow moon, and bits of yellow paper for stars; or making it on a large scale for the class, cut and paste five-pointed stars.

(16) Cut representations of objects suggested by special days—flags, boats, Jack-o-lanterns, etc.

(17) Cut logs for a log house, lay and mount on a background of gray which will look like the filling between the logs.

(18) Animals that will stand: Cut out two animals exactly alike. Paste together leaving legs and feet free.

(19) Illustrate home occupations for the different days of the week, e. g., the washboard, tubs, boiler, and clothes basket for Monday. Cut from black and mount on white paper.

(20) *Picture Frames*: Take a square of paper. Fold lower left corner to upper right corner. Crease. Unfold. Fold lower right



corner to upper left corner. Crease. Unfold. Fold each corner to the center. Fold each corner back to the outside line. Paste in picture, then paste down all but the little triangles.

(21) *Stencils*: Take a square of paper. Fold the right edge to the left edge. Fold the upper edge to the lower edge. Without opening, fold diagonally. Cut out small portions along the folds. Open and mount on paper of a harmonizing color.

(22) *Paper chains*: Cut paper strips four inches by one-half inch. Take the two ends of one strip and paste together so as to form a ring. Thru this ring slip another strip and fasten the ends together so that another ring is formed. Continuing with this, a long chain of rings can be made. Rings of the same color or of harmonizing colors may be used.

(23) *Cat Stairs*: Take two long strips of paper  $\frac{1}{2}$  inch in width. Paste one end of one strip (a) to one end of the other strip (b) at right angles. Fold *a* back  $\frac{1}{2}$  in. Fold *b* back  $\frac{1}{2}$  in. over *a*, and so alternate until the strips are used up.

(24) *Jacob's Ladder*: "Take a strip of thin white paper about five inches in width and twelve inches in length or longer if so desired. Lay it upon the desk with a short edge toward you. Fold this edge over about a quarter of an inch, fold over and over four or five times for a handle of the ladder. Lay a lead pencil on top of this fold and roll up the paper over the pencil, not too tightly. Take the pencil out of the roll. Look inside and you will see the handle. Press the upper part of the roll flat so that the handle will form a trough at the bottom of the roll. About an inch from each end cut through the upper part of the roll to the handle, or about half way. Then slit through the roll from one cut to the other on the folded line. Open out and it looks like an exploded firecracker. Place the roll in the left hand with the thumb on top of one end and the little finger on top of the other end. The central portion will rest upon the other fingers. Now take hold of the middle of the handle with the right hand and pull it up gently—out comes your ladder."

(25) *Japanese Lanterns*: Take a square. Mark off a one-half inch space from one side with a very light line. Fold in the middle so that the edge near which the line has been drawn will be at the top. Slash up to this line making the strips about a half inch in width. Open out. Then paste together the two edges. Paste a handle on.

Decoration for Japanese Lantern. Before the square is slashed water colors of different colors may be dropped upon it and allowed to run together. When dry, finish the lantern.

Or after the slashing is done, a fancy strip may be pasted at the top and another at the bottom.

Or the top may be colored with crayola or water colors.

Or two strips of a harmonizing color may be woven in both at top and bottom.

Fancy wrapping paper may be used for the lanterns.

(26) *Drinking Cup*: Fold a square diagonally through the center. Do not unfold. Lay the paper on the desk with the fold toward you. Fold the lower left corner to the center of the right side. Do not unfold. Fold the lower right corner to the center of the left side. Turn back the upper corners on opposite sides. Use oiled paper if possible.

(27) *Five Pointed Star*: Take a strip of light weight paper e. g. twelve inches long and one and one-half inches wide, and tie a flat knot. Cut off the two protruding edges. This is the pattern. Mark it off on stiff paper. Draw lines connecting opposite points. There will be five of these lines. Now cut out the star, following each line to its point of intersection with another line.

(28) *Bushel Basket*: Take a square of paper. Fold into four smaller squares. Open. Fold both diagonals. Make as large a circle as possible in the square. Cut out. Make a circle of one inch diameter around the central point. Slash on all the lines to the circumference of this little circle. Turn these segments up from the circumference of the small circle. Cut a one-half inch strip. Form the basket and fasten this strip around it. Make handles and paste on.

(29) A 9 in. square folded into 16 or 64 squares may be made the basis of many pieces of doll's furniture and toys, such as houses, chairs, couches, tables, dressers, stoves, shirt waist boxes, cradles, beds, clocks, desks, baskets, tents, sleds, canoes, etc.

(30) Cut out figures of characters and paste upon posters to illustrate stories in Literature.

(31) These figures may be pasted upon the blackboard, the teacher making the appropriate setting by sketching with chalk and charcoal.

(32) *Circle Maker*: Take a strip of manila cardboard 8 in. long and  $\frac{1}{2}$  in. wide. Draw a line across one end, one-half inch from the

end. In the center of this line, make a hole for a pencil point. Measuring from this  $\frac{1}{2}$  in. line, draw lines wholly across the rule to mark inches, and later, one-half way across to mark half-inches. Determine the radius of your circle, e. g., 6 in. With a pin fasten the circle maker to the paper on which you wish your circle drawn, 6 in. from the hole for the pencil point. Now put your pencil point through the hole, revolving the circle maker to mark the circle.

(33) Mark off double circles for picture frames. Decorate with crayograph or water colors.

(34) Cut out a garden. Make circular beds, color, place and paste.

(35) Cut out and color plates, saucers, etc. for a doll's dining table.

(36) Cut out large plates, decorate, and use for lunch.

(37) Cut out circular candy trays and fill with red and white patties.

(38) Wagons and carts: Use a box for the bed of the wagon. Wheels may be made with a circle maker and fastened to the box with collar buttons.

(39) *Double Basket*: Fold a square into four small squares. Fold the two diagonals of the square. Cut from it the largest circle possible. With the folds on the outside, bring together the opposite ends of one of the diameters and paste or sew. Paste on a handle at this point.

(40) *Daisy Chains*: Several strips of white paper three inches in length and one-half inch in width are crossed in the center to form the petals of the daisy. A yellow circle is pasted where these cross to form the center. Instead of crossing the strips, the two ends may be brought to the center and pasted. This makes the petal a loop.

Make *Black-eyed Susans* of orange petals with brown centers. The petals may be pointed if so desired.

(41) *Pin Wheels*: Take a six inch square of paper. Fold the lower left corner to the upper right corner. Crease. Unfold. Fold the lower right corner to the upper left corner. Crease. Unfold. Around the center draw a circle one-inch in diameter. Color the opposite triangles with contrasting or harmonizing colors. Cut on the creases from each corner to the circumference of the circle. Turn the right hand corner of each triangle to the center. Run a pin through the four points and on through the center of the paper and fasten to a stick a foot long.

(42) *A Fan*: Draw a segment of a circle having a seven-inch radius. The segment may be one-half the circle or less. With the same center draw a segment of a circle having a three-inch radius. Cut on the lines drawn. Fold the segment in half, then in fourths, then in eighths. Unfold and refold on the creases so it will make a fan. Make cardboard sticks three inches long and one-half inch wide. Paste on the under side of each fold, one inch from the lower edge. Make a hole near the ends of the sticks. Run a string through and fasten.

### MORE FORMAL SEAT WORK.

1. *In connection with Reading, Writing, Spelling, and Phonetics.*

(1) Pupils arrange a row of pictures on the desk to match a row of names of objects upon the board.

(2) Pupils, being given a box of pictures and of names of these pictures, arrange them in neat order, placing by each picture its name; or the pictures only are given to the pupils and they write beside each its name.

(3) Pupils make sentences from script or print words. If the pupils can write they might copy these sentences on paper. Encourage the making of interesting sentences.

(4) Write upon the board sentences which the pupils know how to read, omitting from each, some word or words, which the pupils have been taught in spelling, or words which are spelled phonetically (these the pupils should be able to spell for themselves.) The pupils copy these sentences, supplying the missing word or words.

(5) The teacher writes upon the board enough familiar words and phrases to form several sentences. These are scattered about. The pupils form the sentences and write them.

(6) The teacher writes a list of the names of colors. The pupils copy, and beside each name draw some object of that color, using crayograph or water colors.

(7) Pupils copy into poem books which they have made, poems which they have committed to memory.

(8) Pupils write sentences, illustrating each, such as—

This is my ball.

This is my bat.

Here I am throwing the ball.

This is John batting the ball.



(8) Pupils copy the names of the days of the week and beside each name picture what the mother or maid does on that day, e. g., beside Monday is a wash tub, beside Tuesday is a flatiron, etc.

(9) The teacher writes upon the board questions and answers not in the correct order. The pupils write the questions and below each its proper answer.

(10) The teacher writes questions upon the board which the pupils can answer *if they think*. The pupils write complete answers to these questions. These are read by the pupils during the Reading period and good thought and clear statement are set up as ideals.

(11) The teacher writes a phonogram upon the board, e. g. *ight*. Each pupil is provided with a box of letters and phonograms and he forms all the words he can think of in which this phonogram occurs, thus: Bright, fight, etc.

(12) From letters and phonograms written upon the board the pupils form as many words as possible and write. They should not make any word the meaning of which they do not know.

(13) Pupils form as many words as they can from printed letters and phonograms.

(14) Pupils turn to a given page in the reader and find all the words they can, belonging to families suggested by the teacher, e. g., ang, kn, wa, wor.

(15) Upon the board are scattered about words and phonograms contained in these words. The pupils match and write in pairs, thus wor work, er mother, ar garden.

(16) Letters and phonograms from which can be made action words are upon the board. The pupils combine and make a list of words that tell them to do something.

(17) Letters and phonograms from which can be made the names of objects with which the pupils like to play are written upon the board. The pupils combine these properly.

(18) Letters and phonograms from which can be made the names of dishes and foods for the table are written upon the board. The pupils combine and write a list of these.

## 2. In connection with Number.

(1) The teacher makes a row of figures upon the board. The pupils copy and at the right of each make the number of small pictures called for by each figure.

(2) The pupils form a clock face by use of the circle maker. They represent the Roman numerals by shoe pegs, or print them, or they write the figures.

(3) The teacher writes upon the board the digits, not in regular order. The pupils copy in regular order and write beside each its name or the Roman numeral.

(4) The pupils express in four ways the numbers through nine,—thus they make a picture of one apple and write beside it *1, one, I.*

(5) The teacher makes a circle upon the board and writes inside, e. g., 4+. About the circumference of the circle she places the digits, not in regular order, and places a cross over the first one to be added. The pupils add in order, taking a course to the right. They write the problems thus,—

$$\begin{array}{r}
 4 \\
 8 \\
 \hline
 12
 \end{array}
 \begin{array}{r}
 4 \\
 7 \\
 \hline
 11
 \end{array}
 \begin{array}{r}
 4 \\
 3 \\
 \hline
 7
 \end{array}
 \begin{array}{r}
 4 \\
 9 \\
 \hline
 13
 \end{array}
 \text{ etc.}$$

(6) The teacher uses the circle in the same way for subtraction, writing within the circle, perhaps, 10—

$$\begin{array}{r}
 10 \\
 -2 \\
 \hline
 8
 \end{array}
 \begin{array}{r}
 10 \\
 -9 \\
 \hline
 1
 \end{array}
 \begin{array}{r}
 10 \\
 -3 \\
 \hline
 7
 \end{array}$$

(7) The circle is also used for multiplication,  $\times 2$ , perhaps, being written within the circle and the pupils writing the table, thus—

$$\begin{array}{l}
 7 \times 2 = 14 \\
 6 \times 2 = 12
 \end{array}$$

(8) After the pupils have learned the relation between cents, nickels and dimes, they picture (by drawing these pieces of money) the equality of five cents and one nickel; the equality of ten cents and one dime; the equality of two nickels and one dime; the equality of one nickel with five cents and one dime.

(9) After studying liquid measure the pupils write all the facts they can think of showing the relation of pints, quarts and gallons to one another.





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